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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/773,054	02/04/2004	Hossein Sedarat	6491P076	5481

8791 7590 09/19/2007  
BLAKELY SOKOLOFF TAYLOR & ZAFMAN  
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EXAMINER
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ZHENG, EVA Y

ART UNIT	PAPER NUMBER
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2611

MAIL DATE	DELIVERY MODE
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09/19/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/773,054	<b>Applicant(s)</b> SEDARAT, HOSSEIN	
	<b>Examiner</b> Eva Yi Zheng	<b>Art Unit</b> 2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 20 July 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-44 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 38-44 is/are allowed.
- 6) ☒ Claim(s) 1-3, 10-12, 14-16, 23-25, 27-29 and 34-36 is/are rejected.
- 7) ☒ Claim(s) 4-9, 13, 17-22, 26, 30-33, 37 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments, see Amendment, filed 7/20/07 with respect to the rejection(s) of claim(s) 1-44 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made.

### ***Specification***

2. The disclosure is objected to because of the following informalities:

On page 17, [0043], recitation: "electrical, optical.....(e.g. carrier waves, infrared signals, digital signals, etc.)." is direct to carrier wave signals, which is non-statutory subject matter. Please delete such phrase from specification in order to avoid 35 U.S.C. 101 rejection.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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4. Claims 1-3, 10-12, 14-16, 23-25, 27-29, and 34-36 are rejected under 35 U.S.C. 102(e) as being unpatentable by Sedarat et al (US 2005/0111561).

a) Regarding to claims 1, 14, and 27, Sedarat et al disclose a method comprising:  
measuring phase noise in a signal, the phase noise due to a sampling-time phase mismatch between a transmitter device and a receiver device (512 in Fig. 5; [0052]);

determining a Gaussian noise power level in the signal (514 in Fig. 5);  
calculating a gain factor associated with the phase noise (518 in Fig. 5); and  
applying the gain factor to the Gaussian noise power level to calculated an equivalent noise power (520 in Fig. 5).

b) Regarding to claims 2, 15, and 28, Sedarat et al disclose determining a signal-to-noise ratio (522 in Fig. 5) based on a signal power of the signal (516 in Fig. 5) and the calculated equivalent noise power (520 in Fig. 5).

c) Regarding to claims 3, 16, and 29, Sedarat et al disclose wherein the signal is a multicarrier signal including a plurality of sub-carriers (DMT and ADSL [0002]).

d) Regarding to claims 10, 23, and 34, Sedarat et al disclose determining bit-loading based on the signal-to-noise ratio (524 in Fig. 5).

e) Regarding to claims 11, 24 and 35, Sedarat et al disclose determining a bit-error rate based on the equivalent noise power ([0050]).

f) Regarding to claims 12, 25, and 36, Sedarat et al disclose determining a first gain factor and a first equivalent noise power for a first sub-carrier; and determining a

second gain factor and a second equivalent noise power for a second sub-carrier (617 in Fig. 6).

***Allowable Subject Matter***

5. Claims 4-9, 13, 17-22, 26, 30-33, and 37 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. Claims 38-44 are allowed.

7. The following is an examiner's statement of reasons for allowance:

None of the prior art teaches or suggest in a ADSL system comprising: a total noise power measurement module to measure a total noise power level of a received signal, wherein a Gaussian noise power level of the signal is represented as the difference between the phase noise power level and the total noise power level; and a gain factor module to calculate a gain factor associated with the timing phase error and to apply the gain factor to the Gaussian noise power level in the signal to calculate an equivalent noise power.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

**Double Patenting**

8. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

9. Claims 1-3, 14-16, and 27-29 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 13-15, 28-30, and 43-45 of U.S. Application No. 10/721,445. Although the conflicting claims are not identical, they are not patentably distinct from each other because both claims disclose with explicitly or inherently the same method.

a) Regarding to claim 1, the U.S. Application No. 10/721,445 disclose a method comprising:

measuring phase noise in a signal, the phase noise due to a sampling-time phase mismatch between a transmitter device and a receiver device (line 3 in claim 13; [0052]);

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determining a Gaussian noise power level in the signal (line 2 in claim 13);  
calculating a gain factor associated with the phase noise (line 4-5); and  
applying the gain factor to the Gaussian noise power level to calculated an  
equivalent noise power (line 6-8).

b) Regarding to claims 2 and 3, the limitations are disclosed in claims 14 and 15 of U.S. Application No. 10/721,445.

c) Regarding to claim 14, the U.S. Application No. 10/721,445 disclose a method comprising:

measuring phase noise in a signal, the phase noise due to a sampling-time  
phase mismatch between a transmitter device and a receiver device (line 5 in claim 28;  
[0052]);

determining a Gaussian noise power level in the signal (line 4 in claim 28);  
calculating a gain factor associated with the phase noise (line 6-7); and  
applying the gain factor to the Gaussian noise power level to calculated an  
equivalent noise power (line 8-10).

d) Regarding to claims 15 and 16, the limitations are disclosed in claims 29 and 30 of U.S. Application No. 10/721,445.

e) Regarding to claim 27, the U.S. Application No. 10/721,445 disclose a method comprising:

means for measuring phase noise in a signal, the phase noise due to a sampling-  
time phase mismatch between a transmitter device and a receiver device (line 4-5 in  
claim 43; [0052]);

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means for determining a Gaussian noise power level in the signal (line 2-3 in claim 43);

means for calculating a gain factor associated with the phase noise (line 6-7);  
and

means for applying the gain factor to the Gaussian noise power level to calculated an equivalent noise power (line 8-10).

f) Regarding to claims 28 and 29, the limitations are disclosed in claims 44 and 45 of U.S. Application No. 10/721,445.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eva Y Zheng whose telephone number is 571-272-3049. The examiner can normally be reached on M-F, 7:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh Fan can be reached on 571-272-3042. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should



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you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Eva Yi Zheng  
Examiner  
Art Unit 2611

September 14, 2007

  
CHIEH M. FAN  
SUPERVISORY PATENT EXAMINER